BIT LINES

WORD LINES

fig. 1a

PRIOR ART
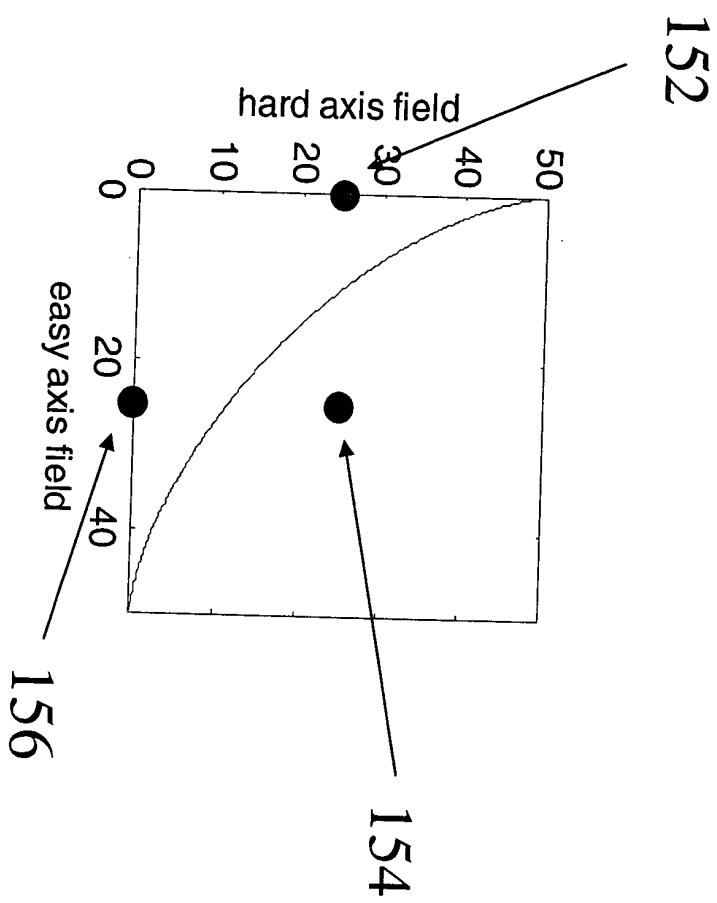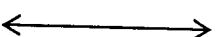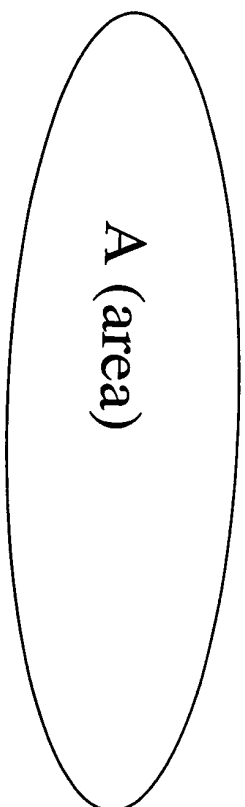
fig. 1b

PRIOR ART

FIG. 1c

YOR 9 2003 0046

FIG. 2a

top view:

A (area)

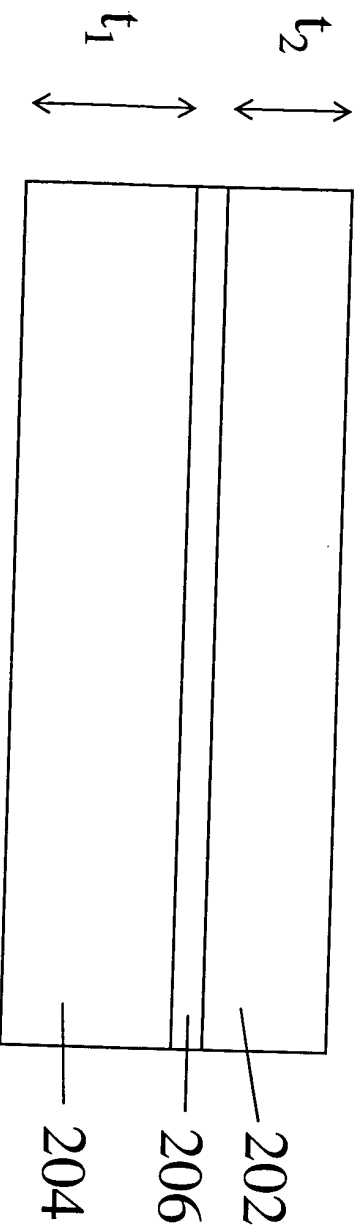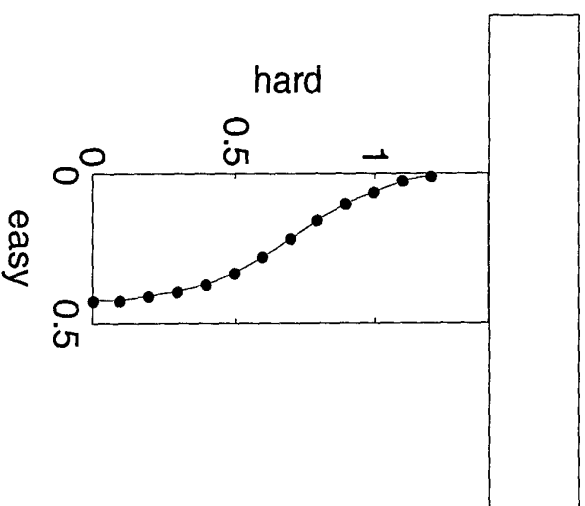b (width of ellipse)

FIG. 2b

side view:

t_2

t_1

202
206
204

Figure 3

via AP astroid for media (t1=t2)

Figure 4
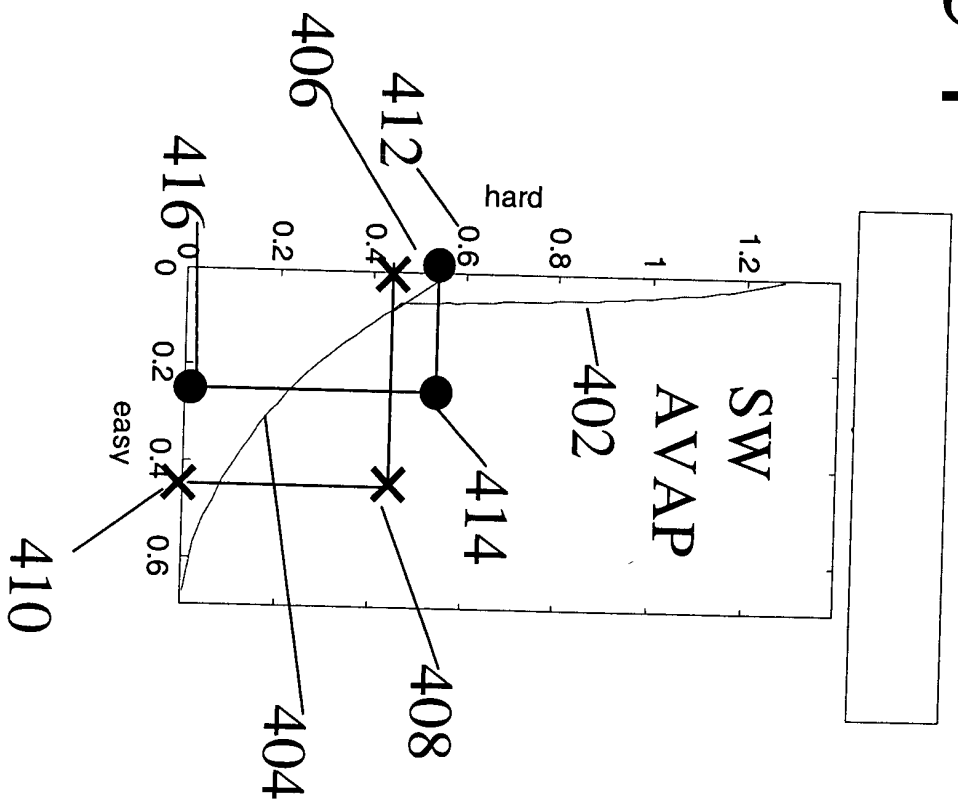
Figure 5 Phase Diagram for Two Coupled Layers

$z = t_1/t_2$

10 9 8 7 6 5 4 3 2 1

A

B   C

AVAP

P

AP   AP   via AP

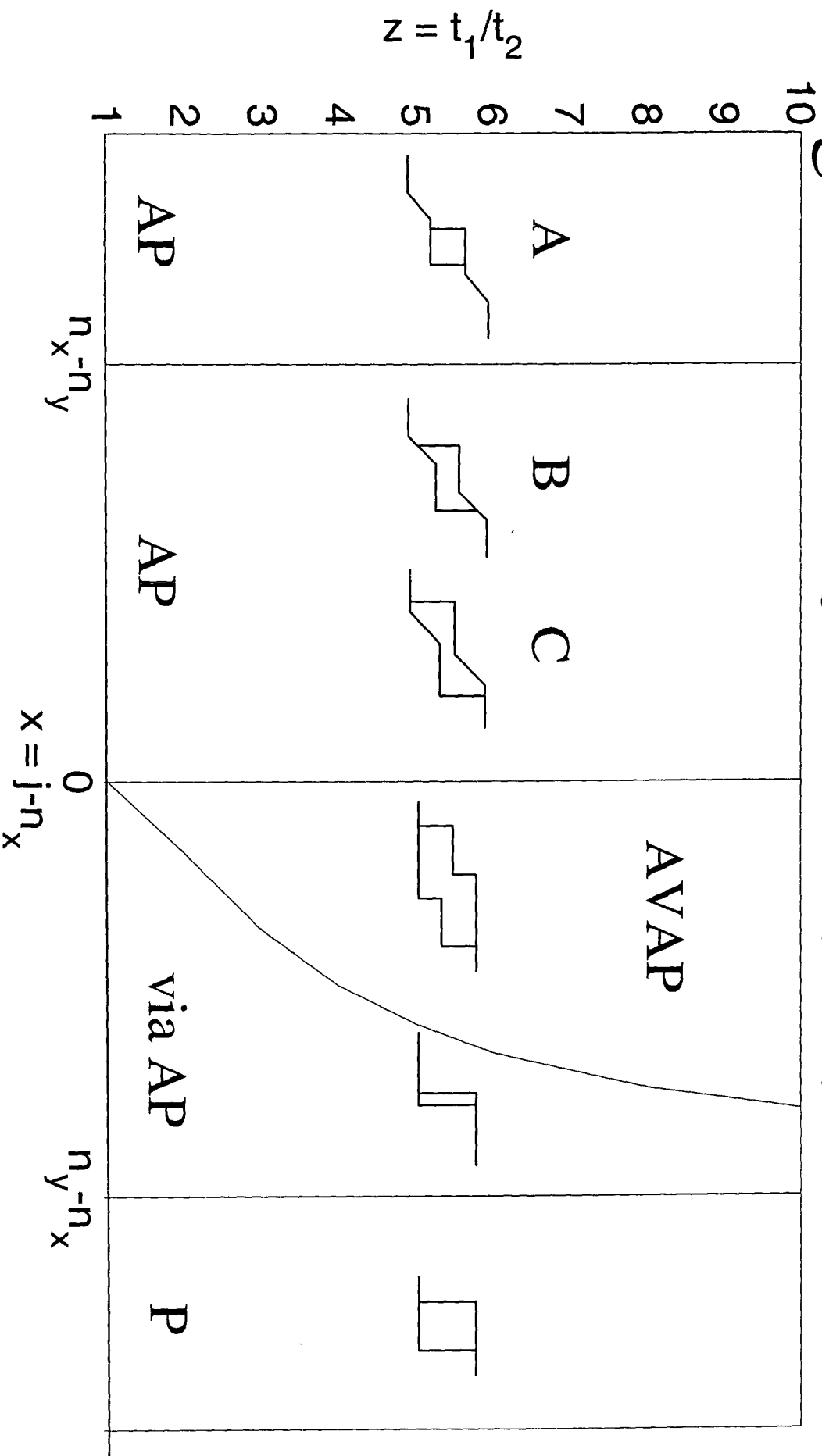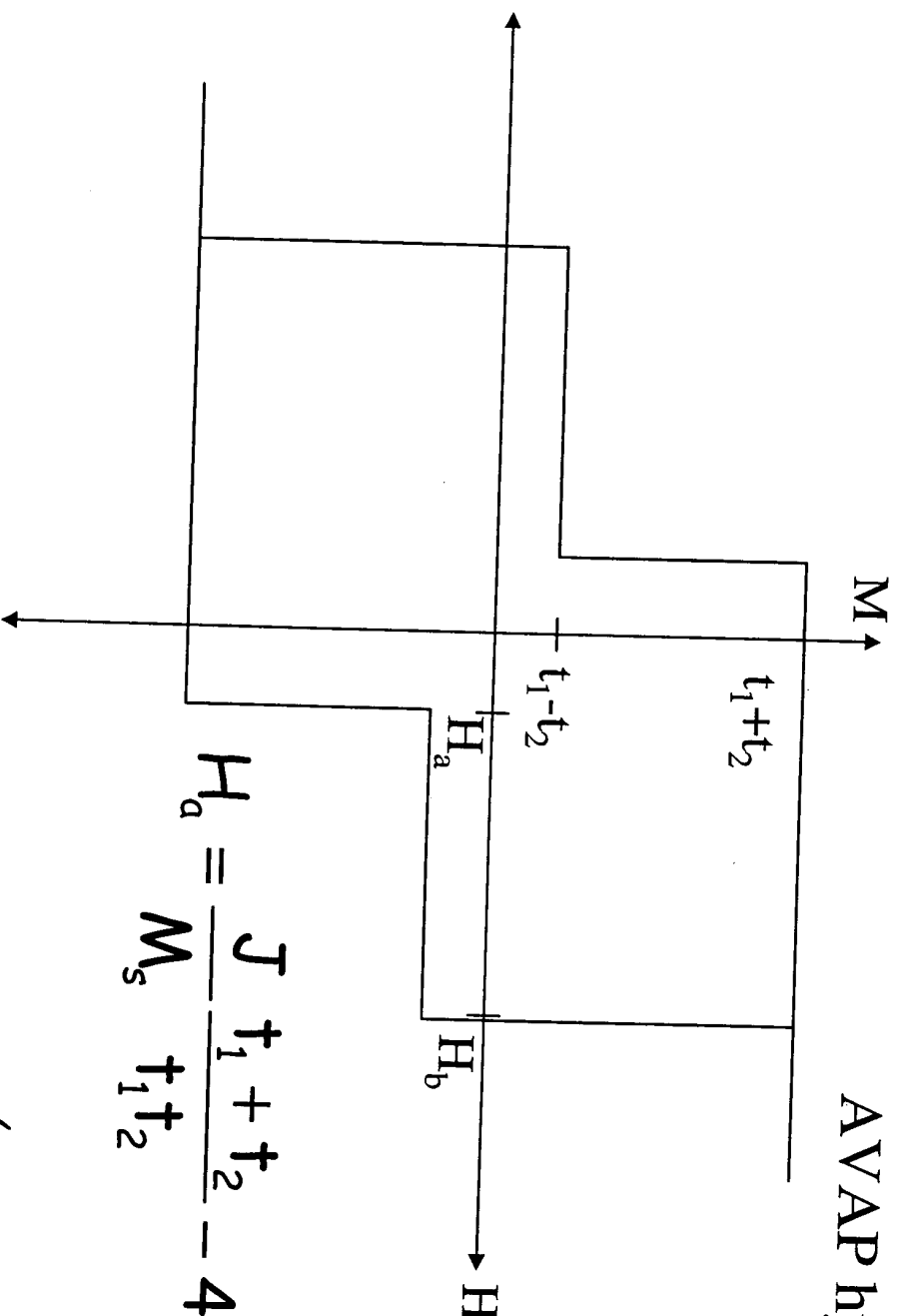n_x-n_y $x = j$-n_x n_y-n_x

0

Figure 6

AVAP hysteresis loop

$$H_a = \frac{J}{M_s} \frac{t_1 + t_2}{t_1 t_2} - 4\pi M_s \frac{(t_1 + t_2)}{b} n_x$$

$$H_b = 4\pi M_s \frac{(t_1 - t_2)}{b} (n_Y - n_x)$$

Figure 7

AVAP astroid
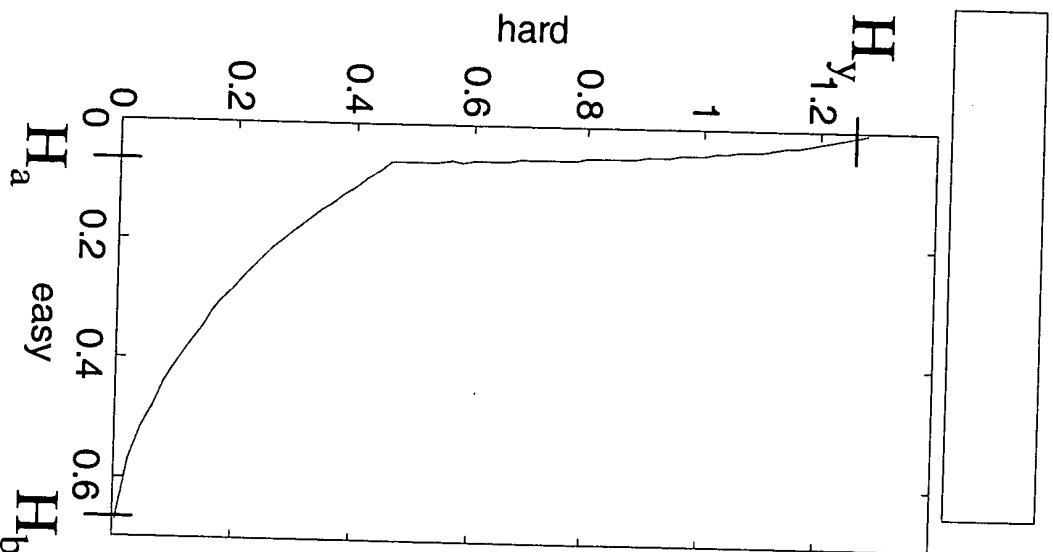
$$H_a = \frac{J}{M_s} \frac{t_1 + t_2}{t_1 t_2} - 4\pi M_s \frac{(t_1 + t_2)}{b} n_x$$
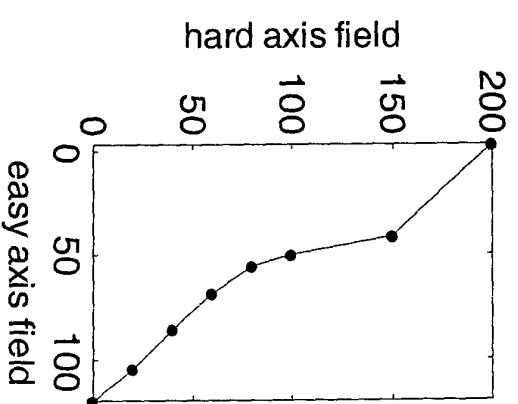
$$H_b = 4\pi M_s \frac{(t_1 - t_2)}{b} (n_y - n_x)$$

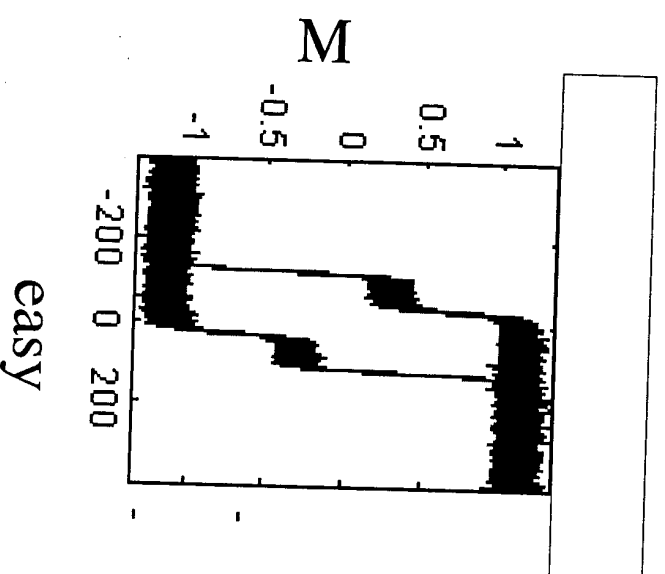$$H_y = 4\pi M_s \frac{(t_1 + t_2)}{b} (n_y - n_x)$$

hysteresis loop

FIG. 8a

Experimental data

Astroid

FIG. 8b

Figure 9

experimental data

M

hysteresis loop

easy